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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,525	02/11/2004	John McDermid	CN1-009US	5145
46317	7590	12/10/2004	EXAMINER	
MARK D. TRENNER 12081 WEST ALAMEDA PARKWAY #163 LAKEWOOD, CO 80228			BUI, BRYAN	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/777,525	Applicant(s) MCDERMID, JOHN	
	Examiner Bryan Bui	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-25 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 6, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>Feb. April 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welch (US Patent No.5,400,651).

With respect to claim 1, Welch teaches an apparatus and method for measuring the water level (abstract) comprising a measuring circuit outputting a voltage (column 4, lines 25-29 and column 3, lines 13-17); a computer operatively associated with the measurement circuit to receive the voltage and determine a capacitance value proportional to a water level (abstract, at least lines 16-21); computer readable program provided in computer readable storage and executable by the processor for determining the water level based on the capacitance value (abstract and column 4, lines 43-46). Welch does not mention computer readable program including program code. However, Welch discloses a microprocessor in a host computer program having preprogrammed look up table to determine the water level or the product-water interface level (column 2, lines 66-68 and column 4, lines 43-46). Thus, the program code should be provided in the computer program (further see Microsoft Press Computer Dictionary). It would have been obvious to one of ordinary skill in the art to modify Welch's teachings to include the

program code as the instructions can be executed by the computer which refer to source code to determine the water level.

With respect to claims 2-5, Welch discloses the measurement circuit includes an inner conductor and an outer conductor, wherein the inner conductor is surrounded by an insulating sheath, and the measured voltage between the inner conductor and outer conductor, wherein capacitance value change in proportion to the water height (level) between the inner conductor and the outer conductor as indicated by the voltage (column 3, lines 20-33, column 4, lines 21+, figure 4, abstract at least lines 16-21).

With respect to claims 7-9, Welch discloses the claimed invention as set forth above, except mention a program for correcting (compensate) the capacitance value for water conductivity/water temperature and salinity (any product -complex) (column 4, lines 20-46).

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Welch (US Patent No.5,400,651) in view of Bilinski et al (US Patent No. 6,490,919).

With respect to claim 10, Welch discloses the claimed invention as set forth above, except mention recording the water level and a corresponding sample time in the computer readable storage. Blinski et al discloses water level measurement includes recording and the sample time of the water leveling measurement in the storage (column 2, lines 5-9 and column 9, lines 12-23). It would have been obvious to one of ordinary skill in the art to modify Welch's teachings to include a water level

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measurement with recording sample time as taught by Bilinski et al to make a device more realiable.

Allowable Subject Matter

4. Claims 6, 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 13-25 are indicate allowable over the prior art of record since the prior art of record does not discloses the claimed combination as recited: "a transmitter at the first water measurement station operative associated with receiver at the second water measurement station, the transmitter delivering water measurement data based on the water level to the receiver at the second measurement station"; "converting the measured voltage to a capacitance value using the real and imaginary component of the measured voltage".

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Bui whose telephone number is 571-272-2271. The examiner can normally be reached on M-Th from 7am-4pm, and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BB

11/22/2004

BRYAN BUI
PRIMARY EXAMINER

